

REMARKS

In light of the following remarks, reconsideration of the present application is requested. Claims 1-7, 10-16, 18 and 21-27 are pending in the application. Claim 1 is an independent claim. Claim 24 is amended. Claims 26 and 27 are new. Claims 8, 9, 17, 19, and 20 are canceled. No new matter has been added.

35 U.S.C. §103 Rejections

I. Claims 1, 3-7, 12-16, 18 and 21-24 are rejected under 35 U.S.C. §103(a) as being unpatentable over Hisai et al. (U.S. Publication No. 2003/0192686) in view of Hara et al. (U.S. Patent No. 5,413,167) and Emoto (U.S. Patent No. 7,064,804). The Applicants respectfully traverse.

The Applicants submit claim 1 is nonobvious over Hisai in view of Hara in further view of Emoto, at least because none of the references teach, suggest, or disclose “a coolant storage tank adapted to supply the coolant into the heatpipe when the plate is cooled and to store the coolant supplied to the heatpipe when the plate is heated,” as recited in claim 1.

The Examiner, on page 3 of the Office Action, alleges that Hara discloses “a coolant storage tank (97) for supplying coolant into the heat pipe when the plate is cooled” and points to Hara’s operative liquid tank 97 for support. However, the Applicants point out that Hara’s operative liquid tank 97 is not “adapted to supply the coolant into the heatpipe when the plate is cooled,” as recited in claim 1, rather it is adapted to replenish the wick in the wafer chuck 91 at regular intervals in order to avoid the dry-out condition described in column 10, lines 5-15 (see also column 10, lines 15-20 and lines 30-40). Further, the Applicants note Hara’s specification fails to disclose that any of the “regular intervals” occurs when the plate is cooled. For at least

this reason, the Applicants respectfully submit Hara fails to disclose “a coolant storage tank adapted to supply the coolant into the heatpipe when the plate is cooled and to store the coolant supplied to the heatpipe when the plate is heated,” as recited in claim 1.

The Examiner, on page 3 of the Office Action admits that Hisai fails to disclose the “coolant storage tank” of claim 1. Accordingly, the Applicants submit Hisai cannot be relied on for rendering the instant feature of claim 1 obvious. Furthermore, the Applicants cannot find such a feature disclosed in Emoto. Accordingly, the Applicants submit that even if Hisai, Hara, and Emoto were combined (the combinability of which is not admitted), the combination would not disclose, at least, “a coolant storage tank adapted to supply the coolant into the heatpipe when the plate is cooled and to store the coolant supplied to the heatpipe when the plate is heated,” as recited in claim 1. For at least this reason, the Applicants submit the combination of Hisai, Hara, and Emoto does not render claim 1 obvious.

For at least the reasons given above, the Applicants respectfully request the rejection of claim 1, and all claims which depend thereon, under 35 U.S.C. § 103 as being obvious over the combination of Hisai, Hara, and Emoto be withdrawn.

II. Claims 2, 10, 11 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hisai et al. as modified by Hara et al. as applied to claim 1, and further in view of Leffert (U.S. Patent No. 3,621,906).

As argued above, claim 1 is nonobvious over the combination of Hisai and Hara at least because neither reference teaches, suggests, or discloses “a coolant storage tank adapted to supply the coolant into the heatpipe when the plate is cooled and to store the coolant supplied to the heatpipe when the plate is heated,” as recited

in claim 1. Additionally, the Applicants submit Leffert fails to cure this deficiency. Accordingly, the Applicants submit claims 2, 10, 11 and 25 are nonobvious at least by virtue of their dependency on claim 1.

For at least the reasons given above, the Applicants respectfully request the rejection of claims 2, 10, 11 and 25 under 35 U.S.C. § 103 as being obvious over Hisai, Hara, and Leffert be withdrawn.

New Claims

Claims 26 and 27 are new. Support for these claims may be found in at least FIGS. 4-5 and paragraphs [0030]-[0032] of the specification. The Claims are believed to be allowable for at least the following reasons.

New Claim 26

In the Office Action, the Examiner relies on Hara for disclosing a coolant supply pipeline (element 96) and a coolant storage tank (element 97). Hara's alleged coolant supply pipeline 96 and alleged coolant storage tank 97 are used to replenish the wick in Hara's wafer chuck 91 (see column 10, lines 15-30). However, Hara does not teach, suggest, or disclose that the alleged coolant storage tank 97 is configured to receive coolant from a heat pipe, rather, the alleged coolant storage tank 97 merely provides coolant to the wafer chuck 91.

Because Harra does not disclose a coolant storage liquid tank configured to receive coolant from a heat pipe, the Applicants submit Harra cannot be relied on for disclosing "the coolant storage tank is configured to receive the coolant from the heatpipe via the coolant supply pipeline," as recited in new claim 26. For at least this reason, the Applicants submit claim 26 is patentable over the cited art.

New Claim 27

On page 8 of the Office Action, the Examiner alleges that Hisai discloses a thermostatic element (pipe 21 of FIG. 3) that is substantially submerged in a coolant (steam). However, according to claim 27, “**the cooling water supply pipeline is substantially submerged in the liquid coolant portion** when the coolant is supplied to the heatpipe.” For at least this reason the Applicants submit new claim 27 is patentable over the cited art.

CONCLUSION

Accordingly, in view of the above amendments and remarks, reconsideration of the objections and rejections and allowance of each of claims 1-7, 10-16, 18 and 21-27 in connection with the present application is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact John A. Castellano at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. §1.17; particularly, extension of time fees.

Respectfully submitted,

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By _____

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